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Title	Method for manufacturing semiconductor capacitor and semiconductor capacitor manufactured thereby		

Patent Abstract

There is provided a method of manufacturing a semiconductor capacitor having a sufficient capacitance by increasing the surface area of its lower electrode and a semiconductor capacitor manufactured thereby. The method of manufacturing a semiconductor capacitor comprises the steps of: forming a lower electrode pattern, some portion of which contacts the semiconductor substrate having an insulating film between them; forming HSG (hemispherical grained) silicon layer over the exposed lower electrode pattern; and performing nitridation of the surface of the lower electrode right after the formation of the above HSG silicon layer in in-situ. In order to increase the surface area of the lower electrode are further added steps such as seeding the metallic particles capable of forming silicide on the surface of the lower electrode instead of the formation of the HSG silicon layer, or performing thermal treatment after exciting the surface of the lower electrode by plasma-discharge or ultraviolet irradiation.